



Public Service Company of New Mexico PV Plus Battery for Simultaneous Voltage Smoothing and Peak Shifting

Project Description

Public Service Company of New Mexico and its partners will co-locate a 2.8 MWh advanced lead acid battery with a separately installed 500kW solar photovoltaic (PV) plant to create a dispatchable distributed generation resource. This hybrid resource will provide simultaneous voltage smoothing and peak shifting through advanced control algorithms and switch between two configurations, end-of-feeder and beginning-of-feeder. Data collection and analysis will produce information for a wide range of applications including grid upgrade deferral. The project will also yield modeling tools used to optimize battery system control algorithms and further the understanding of feeders with storage and distributed generation. The site is located in southeast Albuquerque and is easily accessible for viewing by the public.

Goals/Objectives

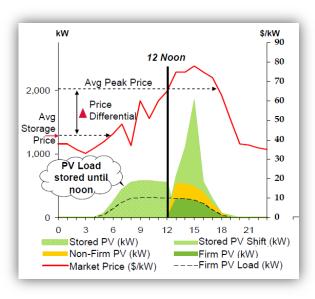
- Demonstrate that intermittent, renewables-based, distributed generation and storage can mitigate voltage-level fluctuations and enable peak shifting
- Quantify and refine performance requirements, operating practices, and costs associated with the use of advanced storage technologies
- Achieve 15 percent or greater peak-load reduction through a combination of substation-sited PV and storage

Key Milestones

- Battery Manufacture Completed (May 2011)
- Finalize System Control Strategy (September 2011)Manage PV and battery system installations (November 2010)
- Test and Commission Demonstration (August 2011)

Benefits

- Job creation
- Electricity costs reduced
- Grid efficiency increased
- Energy security strengthened
- Next-generation utility system advancement
- Greenhouse gas emissions reduced



CONTACTS

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PARTNERS

University of New Mexico Northern New Mexico College Sandia National Laboratories East Penn Manufacturing Company Electric Power Research Institute

PROJECT DURATION

01/01/10-04/30/14

BUDGFT

Total Project Value \$6,113,433

DOE/Non-DOE Share \$2,305,931/\$3,807,502

EOUIPMENT

Advanced Lead Acid and Ultra Batteries from East Penn Manufacturing

S&C SMS Power Control System
Dual Core Transformer

DEMONSTRATION STATES

New Mexico CID: OE0000230

Managed by the National Energy Technology Laboratory for the Office of Electricity Delivery and Energy Reliability



